

30. \* *Branta canadensis*.—Canada Goose.

A common migrant, perhaps more abundant in spring. They sometimes frequent the ponds, but are usually found feeding on the cultivated fields inside the dyke at the base of the Point. Observed October 28, 1905, and October 11 and 12, 1906.

31. \* *Olor columbianus*.—Whistling Swan.

Gardner reports Swans as occurring irregularly in spring. Usually they remain well out in the lake, but sometimes during heavy weather they venture in on the ponds. It is less common in fall. We have seen mounted specimens of this species in Leanington and as *columbianus* is the common form in this section, list it under this head, though *buccinator* may occur.

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## SPRING MIGRATION ANOMALIES IN 1907

AS OBSERVED BY O. WIDMANN AT ST. LOUIS, MO.

The abnormal weather of the spring of 1907 caused unprecedented deviations of migration dates from the standard set up during thirty years of observation. A series of ten hot summer days in the latter part of March pushed vegetation to a state of development never seen before at that time, opening the buds of leaves and flowers not opened in other years before the latter part of April. Just as these tender growths were exposed, and before they had time to strengthen, a freeze followed in early April, killing them. All through April the temperature remained so low that almost no advance at all was made in plant growth, and this perfect, most remarkable, standstill lasted till early May and even then progress was exceedingly slow. Hickories did not leaf before the second week of May and Sycamores, whose first leaves have been killed, were still without leaves at the end of May and are even now (June 6) very thinly clothed.

That this retardation of plant growth had more to do with the delay of migration than the low temperature itself seems probable. Insectivorous birds seem to be influenced more by the condition of vegetation than the weather, especially those which find their principal food in the small larvæ infesting

the leaves of trees. Vireos, Warblers, Orioles and others experienced the greatest delay, while Thrushes and other ground feeders were less irregular.

Spring migration started as usual. Juncos, for instance, appeared in force on March 15th and reached maximum on the 20th. Most of them had passed on, but flocks continued to arrive when the change in the weather came at the end of the month and, while in most years Juncos are rarities after the middle of April, this year they were present in force until the 20th and stragglers until May 4th.

Fox Sparrows came as usual March 15th and were unusually numerous March 20th to 25th, but the hot weather took them all off at once and none were seen after the 25th, while in other years their transit is extended into April, sometimes to the third week of it.

White-throats kept their normal dates pretty well. The van appeared as usual at the middle of March (16th) and the hot period did not affect them visibly; but the bulk, the great army, due April 20th, came a week behind time, April 28th, and remained with us a week later than in other years, to May 12th; the last ones were seen May 17th, the middle of May being the usual time for them.

White-crowns, too, did not deviate much from the rule, appearing in numbers May 3rd, but contrasting with their usual soldier-like precision, when nearly the entire army passes within a few days and all are gone after the 15th; this year's passage was dragging with the 22nd for last day, breaking the record of the state by four days.

The middle of March marks the invasion of this region by north-bound Song Sparrows and the bulk was here promptly on the 17th, but induced to rapid transit by the heated term the species ordinarily three weeks in passing had disappeared after the 25th and none were seen between March 25th and May 12th, when from that day until May 30th Song Sparrows were seen and heard to sing in three places not known to be breeding stands. Whether these individuals were belated transients or summer residents spreading to entirely new territory remains to be seen.

Contrary to the rule that Yellow-rumps appear in large numbers early in April none were in evidence before April 20th, when they began to appear in pairs. Few were noticed until May 3rd, at which time in other years the species becomes rare, but this year the bulk arrived. Transit of it dragged through two weeks and the last of the species were seen May 27, three days later than the latest on record, May 18th, '86. Another prominent transient visitant, the Sapsucker, appeared as usual March 23rd, but before the bulk had reached us the change in the weather occurred and all farther progress was stopped until the middle of April, when movements were in order and the great host of transient Sapsuckers crossed this latitude, being most plentiful April 20th and last noticed April 24th, which is not particularly late, as many instances are on record when they remained to the end of April, even into May.

Conspicuous in transit, because traveling in broad daylight, is the Blue Jay. Old pairs often, though not always, permanent residents were seen building nests on March 25th, the usual time, but north-bound transients began to pass April 27th, from one to two weeks later than in former years. Flocks continued to come and go until May 10th, the regular time when these migrations of Blue Jays cease. Birds of last year were seen mating May 12th and building May 16th, nearly two months after their parents had gone through the same experience.

The most noticeable disorder showed itself in the passage of northern Warblers and in the arrival of our summer residents due in April. Most of those coming ordinarily soon after the middle of April came only in the last days of the month or in early May. Red-headed Woodpeckers, Baldpates, Catbirds, Rose-breasts, Wood Thrushes, Summer Tanagers, Redstarts, Parula Warblers, Warbling Vireos, Ovenbirds and Swifts came on the 28th and 29th. Yellow-throats, Yellow Warblers, Orchard Orioles on May 2nd; Great Crested Flycatchers, Chats, Kingbirds on the 3rd; Indigo Buntings on the 4th; Pewees and Scarlet Tanagers on the 9th and Bell's Vireo on the 10th, all from one to two weeks too late.

Some did not get their full numbers before June, a month later than usually, noticeable among them the Red-eyed Vireo and Orchard Oriole. Kingbirds seem rarer than in other years; also Hummingbirds, though there are plenty of blooming plants, some early plants retaining their flowers much longer than in other springs, for instance, Spring-beauties, Violets and Phlox, also Fire-bush and Snowball, open flowers of which are still to be seen.

Swainson's and Alice's Thrushes came in their usual abundance and kept nearly their regular time, remaining only a few days longer, to June 4th. Hermit Thrushes came early and staid late, from March 23rd to May 1st. Wilson's Thrushes came late and were here only six days, from May 14th to 19th, inclusive.

Never did we have such an opportunity to admire the beauty of northern Warblers as this year. Not only did they remain long and in larger numbers than ever, but they were remarkably tame and frequented the lower branches of trees and shrubs, where they could be seen easily on account of the thin cover which trees and shrubs afforded throughout the month of May.

The most numerous of all Warblers was the Black-poll. The first came May 3rd and the last is not gone yet, two females being seen this morning (June 6th). From May 16th to June 3rd whole flocks of males and females were met with wherever we went, but unlike other years, their song was seldom heard.

The Chestnut-sided Warbler was first seen May 9th and daily in numbers, males and females together, from 16th to 22nd, and only slightly less abundantly to June 3rd.

The Magnolia Warbler came May 12th in little troops, both sexes, and remained plentiful to May 22nd, but smaller numbers were daily seen till June 3rd.

It might be stated that most of the Warblers came about a week later and remained from one to two weeks longer than in most other years.

Northern Waterthrushes were common most of the time

from May 9th to 28th. Transient Redstarts from May 12th to June 3rd.

Baybreasted Warblers from May 16th to June 2nd, both sexes.

Cape May Warbler from May 16th to 28th, mostly males.

Blackburnian Warbler from May 14th to 22nd.

Mourning Warbler from May 18th to June 3rd; the singing male accompanied by female.

Black-throated Green were strangely scarce; only on four days, May 11th, 16th, 17th and 22nd.

But most striking was the scarcity of Tennessee and Nashville Warblers, in other years some of the most abundant transients. Never did we have such small numbers of them nor did we have so little of their song. The transit of the Tennessee was extended over twenty-five days, but on no day were there more seen than eight (May 22nd). They came two weeks later than usual (May 9th) and the lasts were still present June 3rd. The Nashville Warbler was noted from May 1st to 22nd, but only two birds at any one day.

On the other hand *Wilsonia pusilla* and *canadensis* exceeded all records for abundance and length of stay. *Pusilla* came May 11th and *Canadensis* May 13th, but from the 14th to 22nd they were in troops along creeks and scattered everywhere, both males and females together, the males full of song. Wilson's was gone after the 24th, but the Canada Warbler remained till June 3rd.

Another species which had an unusually prolonged stay with us is the Least Flycatcher from April 29th to June 3rd. The Yellow-bellied from May 16th to June 4th, and the Olive-sided from May 28th to June 4th, but representatives of the Flycatcher family may still be lingering with us, the thirteen-year locusts having made their appearance during the three days' rain from May 30th to June 2nd, and afford an abundance of food for all birds.

My report would be incomplete would I omit the mention of unprecedented numbers of Pine Finches present from May 15th to 23rd. Wherever we went on these days we met troops of thirty or more in company of Goldfinches or at least fre-

quenting the same places, coming down with them to drink and bathe and trying to make their feeble song heard when the Goldfinches made pauses. Goldfinches, also, came ten days later than in other years. The bulk of males was first noticed May 1st and the height of migration occurred May 13th to 19th, when flocks of a hundred or more, both sexes, were at their old stands. Smaller numbers, mostly females, were left at these places until the 23rd, after which summer residents only were seen.

Purple Finches, usually present in troops from March 10th to April 20th made a change this year by coming only on April 20th and staying in flocks till May 1st and in smaller numbers, brown birds, till May 19th.

As a counterpart of the unexplained reappearance of the Song Sparrows in May must be mentioned the still more remarkable presence of a Brown Creeper in song May 19th in a remnant of native timber within the city limits of St. Louis. None had been seen since April 20th.

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## NOTES ON THE BROAD-WINGED HAWK.

(*Buteo platypterus*.)

BY R. W. SHUFELDT, F. A. O. U.

Upon looking over, the other day, some old unpublished ornithological notes and negatives of mine I came across some that referred to the Broad-winged Hawk, and as the account includes the keeping in captivity three subadult specimens of this species, taken by myself, I thought perhaps that the material might be worthy of preservation.

The pair had nested within about a mile of my then residence at Takoma Park, Maryland, and both my son and myself were acquainted with the fact, having often noticed the birds circling overhead in the vicinity. They had selected a tall, ill-shapen oak with short, crooked limbs, and the nest was